030928 Notes on STAR Trigger Workshop

We will circulate a form for each PWD to fill in based on Christie's talk:
Add B field to definition of triggers in GUI.
Include number of events desired
Include detailed discussion of any thresholds – we may have different threshold on each detector for different physics goals
Include luminosity range of interest so we can tune for optimal deadtime- i.e. run some triggers only at beginning of fill.
Expect to have 1 set of TCU bits for early in the fill and another for later.

Do we need a test time for Run5 trigger ideas?

Do we need an express stream for Upsilon and Abar events from L3?

Trigger detectors available:
CTB,BBC,ZDC, BEMC(5/8), EEMC, FPD
Use both ZDC and BBC TACs to define vertex

L2: Expect tests by 2 Oct. Now use 4 threads: control, RTS connection, monitor, write.
Will want to match CTB with EMC for electron/photon ID.
Meet on 1 Oct to define API for L2 users.

L3: Can we use 1 display to sample and another to display specific

DAQ100: Do we want to send EEMC towers to L2? Are there some decisions we can make on EMC data in the receiver crate without sending to L2? This may not save much time because of the 30 microsec Myrinet latency.

RTS: We are allowed 32 total triggers, the limit set by the off-line 32 bit mask.

Vertex position: We toss 20-25% of the central collisions in offline because of bogus vertex. Lower resolution of ZDC for central collisions, will be augmented by BBC in coming run, where resolution improves with centrality. Need plan to calibrate BBC TACs for optimal position resolution.

UPC triggers: inefficient for 4-prong events. May use L2 and improve L0 selection.
Some overlap with J/Psi triggers – not same thresholds for multiplicity or centrality.

Heavy flavor: Want to concentrate on 20%-80% centrality, since can't pull the signal out of central collisions.

Strangelets: Use CTB hi-mult triggers alone, search offline.
May us CTB>M + ZDC>M to define separate stream for enriched sample.

Special trigger bit: If we do not use interleaved triggers then have an extra bit in TCU.

Scalers: add 8 live bits to Tonko scalers.
UPC want bunch-crossing bits in scalers
pp wants vertex bit in scalers

Pre/Post: set default to 0 and use pre/post 5 only for debug.
Expect to use prepost 5 for one trigger type in each run for diagnostics